GATES LEARJET CORPORATION

maintenance manual

CHAPTER

6

DIMENSIONS & AREAS

Chapter Section Subject	Page	Date
6-Title		
*6-List of Effective Pages	1	Apr 30/82
6-Contents	1	Dec 2/77
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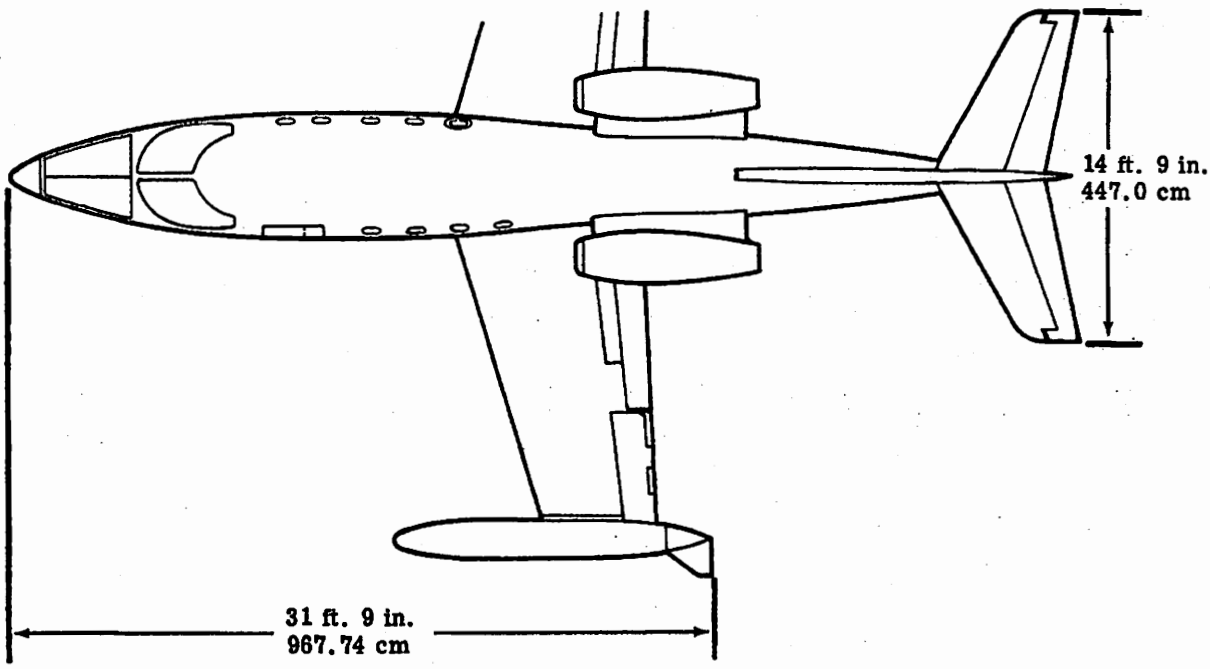
Chapter Section Subject	Page	Date

Insert Latest Revised Pages; Destroy Superseded or Deleted Pages.
*Asterisk indicates pages revised, added or deleted by current revision.
The portion of the text affected by the current revision is indicated by a vertical line in the outer margin of the page.

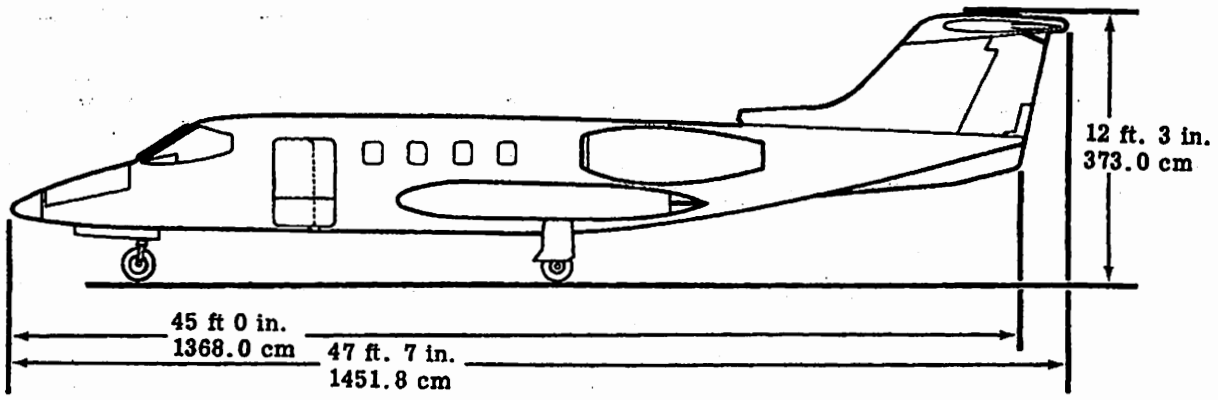
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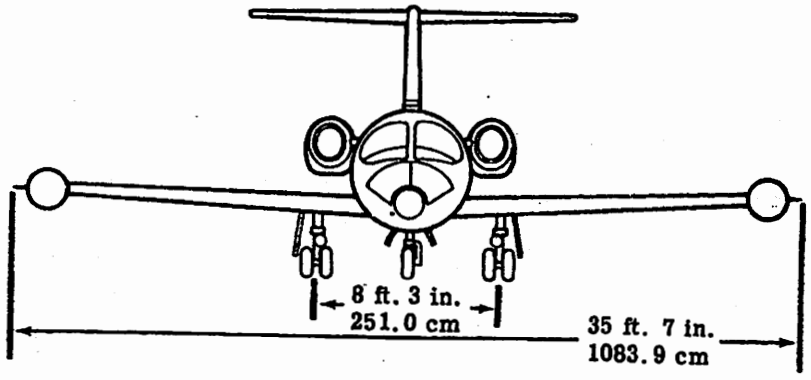
GENERAL - DESCRIPTION AND OPERATION

1. Description
 A. This chapter presents the aircraft dimensions, control surface areas, water lines, buttock lines, and station designations as outlined in the text and illustrations.
 B. Dimensions are given in U.S. and metric measure for overall length, width (wing span), and height at vertical stabilizer. Areas are in U.S. and metric measure and are provided for wing and control surfaces.



Aircraft Dimensions
Figure 1 (Sheet 1 of 2)





Aircraft Dimensions
Figure 1 (Sheet 2 of 2)

EFFECTIVITY: ALL

DIMENSIONS AND AREAS - DESCRIPTION AND OPERATION

1. General

A. The following charts and figures give the dimensions of the aircraft and the areas of the control surfaces. Dimensions and areas are given in U.S. and metric units. Measurements are carried to the nearest full inch and centimeter. These dimensions are for reference only and are not for inspection purposes.

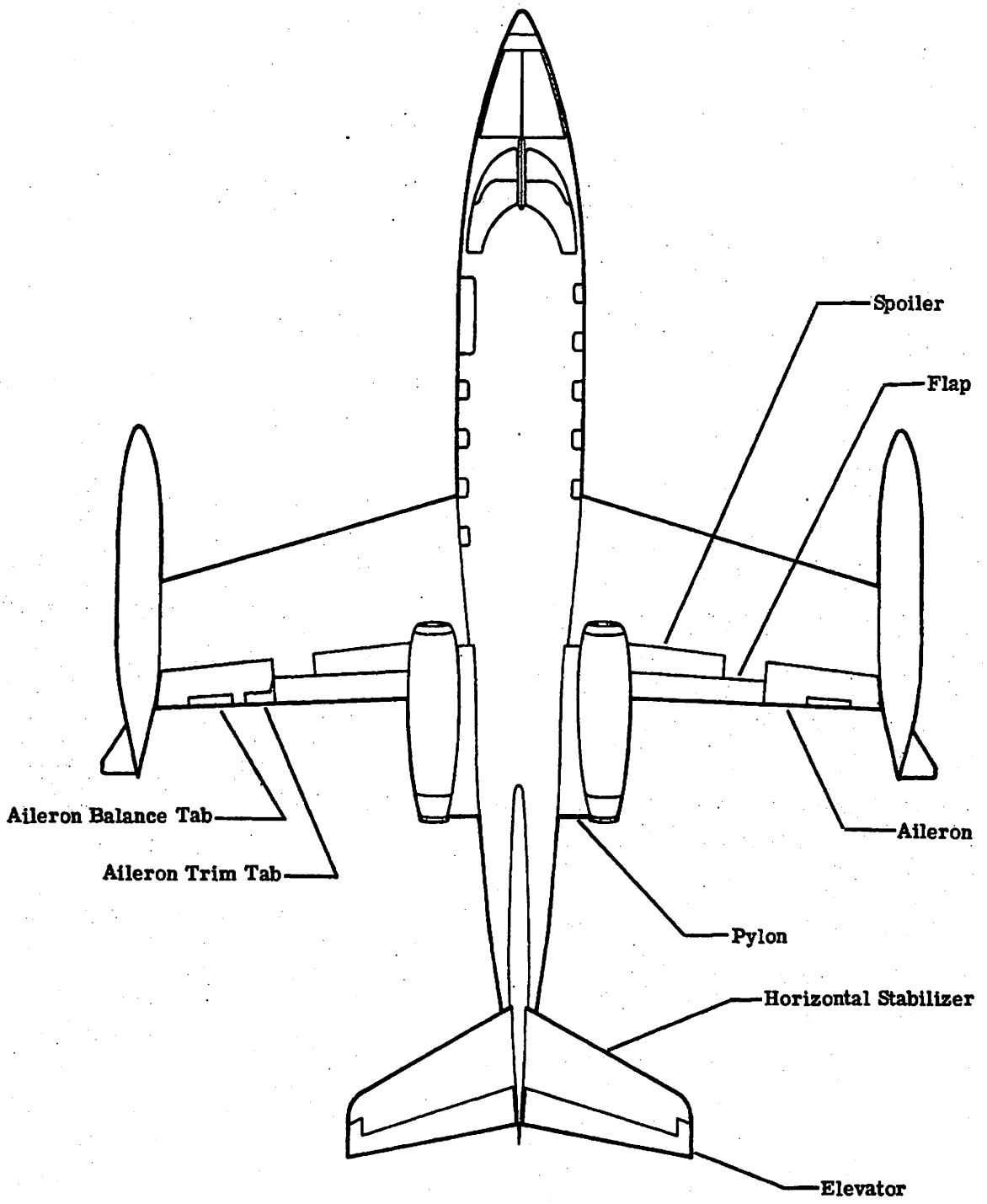
B. Dimensions

Span (overall)	35 ft. 7 in.	(1083.9 cm)
Span (excluding tip tank fins)	34 ft. 1 in.	(1038.8 cm)
Length (overall)	47 ft. 7 in.	(1451.8 cm)
Height (overall)	12 ft. 3 in.	(373.0 cm)
Wing		
Root Chord (Fuselage centerline)	9 ft. 0 in.	(274.0 cm)
Chord @ W.S. 181.1	5 ft. 1 in.	(155.0 cm)
Dihedral		2° 30'
Sweepback (c/4)		13°
Incidence		1°
Aileron		
Span (nominal)	4 ft. 8 in.	(145.0 cm)
Root Chord	1 ft. 5 in.	(43.0 cm)
Tip Chord	1 ft. 1 in.	(33.0 cm)
Trim Tab Span (LH only)	1 ft. 3 in.	(38.0 cm)
Balance Tab Span (RH & LH)	1 ft. 9 in.	(53.0 cm)
Flaps		
Type		Single Slotted
Span (nominal)	9 ft. 2 in.	(279.0 cm)
Root Chord	2 ft. 4 in.	(71.0 cm)
Tip Chord	1 ft. 8 in.	(51.0 cm)
Horizontal Stabilizer		
Span	14 ft. 8 in.	(447.0 cm)
Root Chord		(152.0 cm)
Tip Chord		(71.0 cm)
Sweepback (c/4 chord)		25° 0'
Dihedral		0'

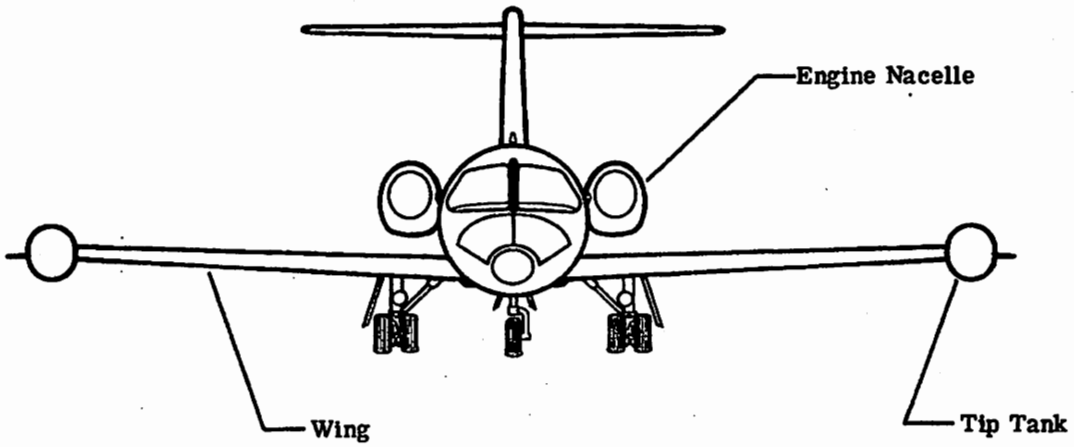
Elevators	
Span (per side)	7 ft. 2 in. (218.0 cm)
Root Chord	1 ft. 4 in. (41.0 cm)
Tip Chord	7 in. (18.0 cm)
Vertical Stabilizer	
Span	5 ft. 6 in. (168.0 cm)
Root Chord	8 ft. 11 in. (272.0 cm)
Tip Chord	5 ft. 1 in. (155.0 cm)
Sweepback (c/4)	35° 36'
Fuselage	
Fuselage constant section	
Outside diameter	5 ft. 3 in. (160.0 cm)
Inside diameter	4 ft. 9 in. (145.0 cm)
Length of passenger area	11 ft. 4 in. (345.0 cm)
Height (floor to ceiling)	4 ft. 4 in. (132.0 cm)

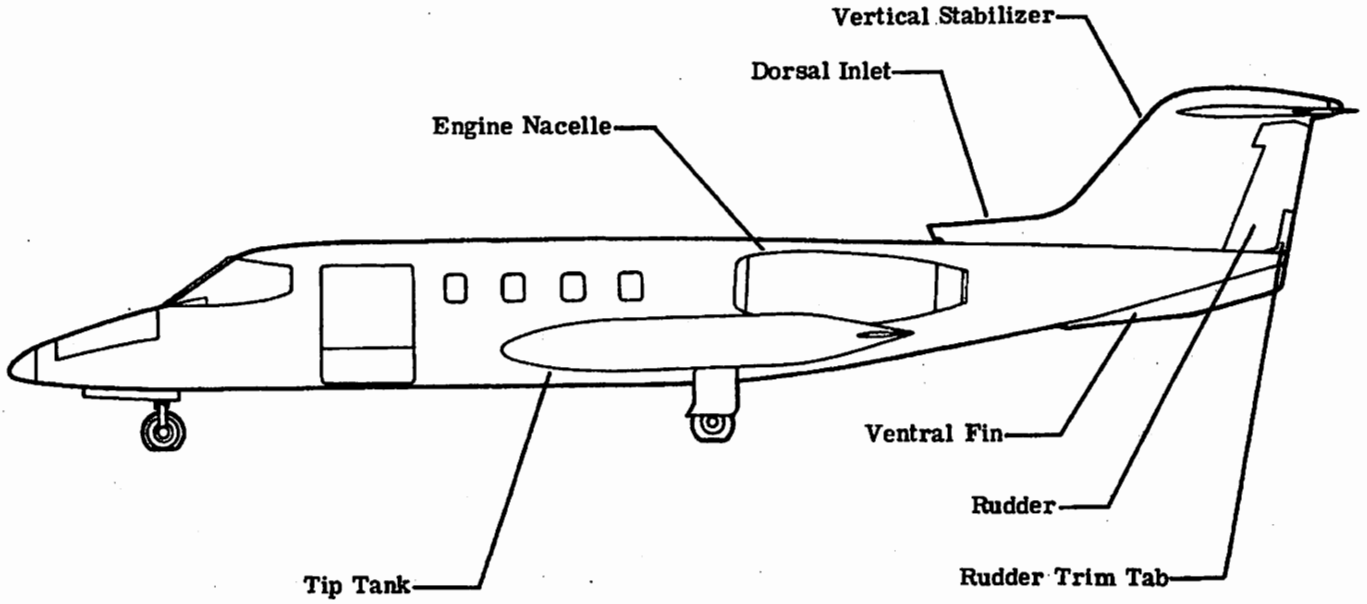
C. Areas

Wing	231.8 ft^2 (21.5 m^2)
Aileron (per side)	5.854 ft^2 (5438.0 cm^2)
Aileron Trim Tab (LH only)	.335 ft^2 (311.0 cm^2)
Aileron Balance Tab (LH & RH)	1.25 ft^2 (1189.0 cm^2)
Flaps (total)	36.85 ft^2 (3.0 m^2)
Spoilers (total)	7 ft^2 (6503.0 cm^2)
Horizontal Stabilizer (total)	54.0 ft^2 (5.0 m^2)
Stabilizer (excluding elevator)	40.4 ft^2 (4.0 m^2)
Elevator	13.6 ft^2 (1.0 m^2)
Vertical Stabilizer (total)	38.35 ft^2 (3.0 m^2)
Vertical Stabilizer (excluding rudder)	31.80 ft^2 (3.0 m^2)
Rudder	6.55 ft^2 (6038.0 cm^2)
Rudder Trim Tab	0.69 ft^2 (641.0 cm^2)



Aircraft Areas
Figure 1 (Sheet 1 of 2)





Aircraft Areas
Figure 1 (Sheet 2 of 2)

STATIONS - DESCRIPTION AND OPERATION

1. General

A. The aircraft is divided into reference points along three axes. The reference points are measured in inches. These reference points provide a means of quickly identifying the location of a bulkhead, component, etc.

(1) Fuselage station, water line and buttock line measurements used in this manual are rounded to the nearest inch.

B. All reference points may be converted to metric measurement (centimeters) by multiplying the reference point (in inches) to 2.54.

C. The following terms are used for reference points.

FS - Fuselage station is a horizontal reference designation starting at the nose of the aircraft.

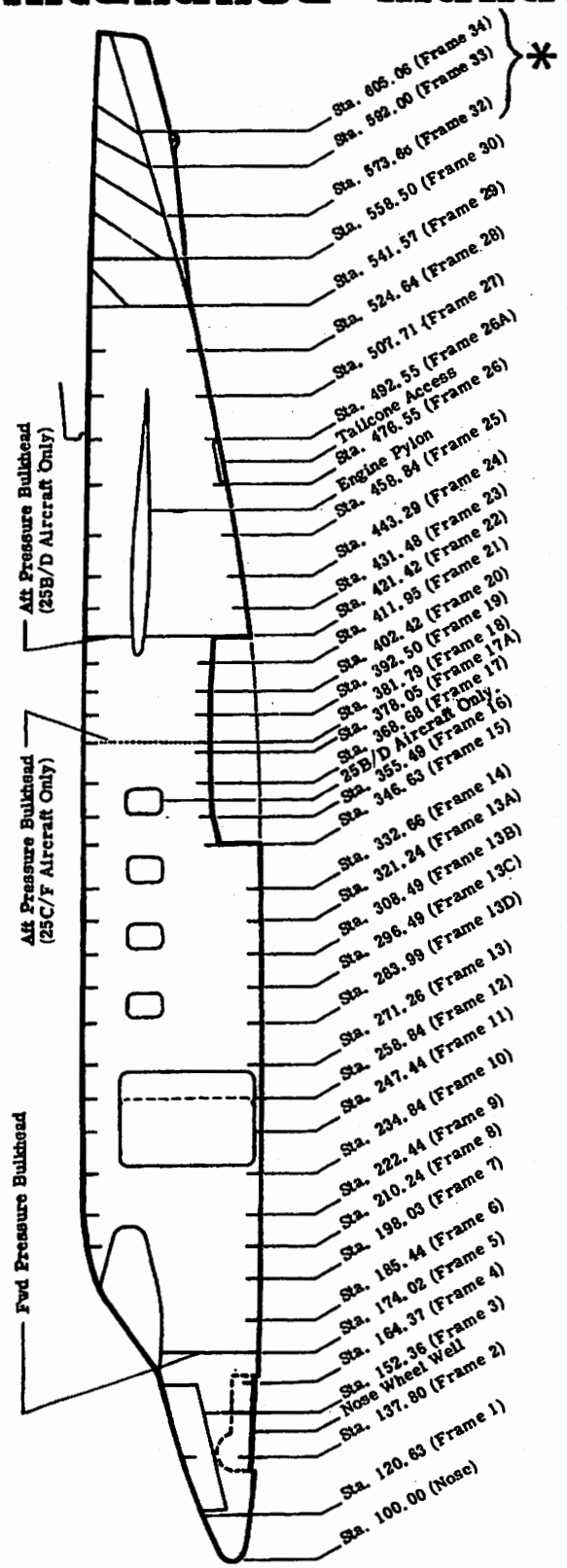
WL - Water line is a vertical reference designation measured parallel to the ground.

BL - Buttock line is a horizontal reference designation starting at the aircraft centerline. Right or left is added to indicate the direction from aircraft centerline (RBL & LBL).

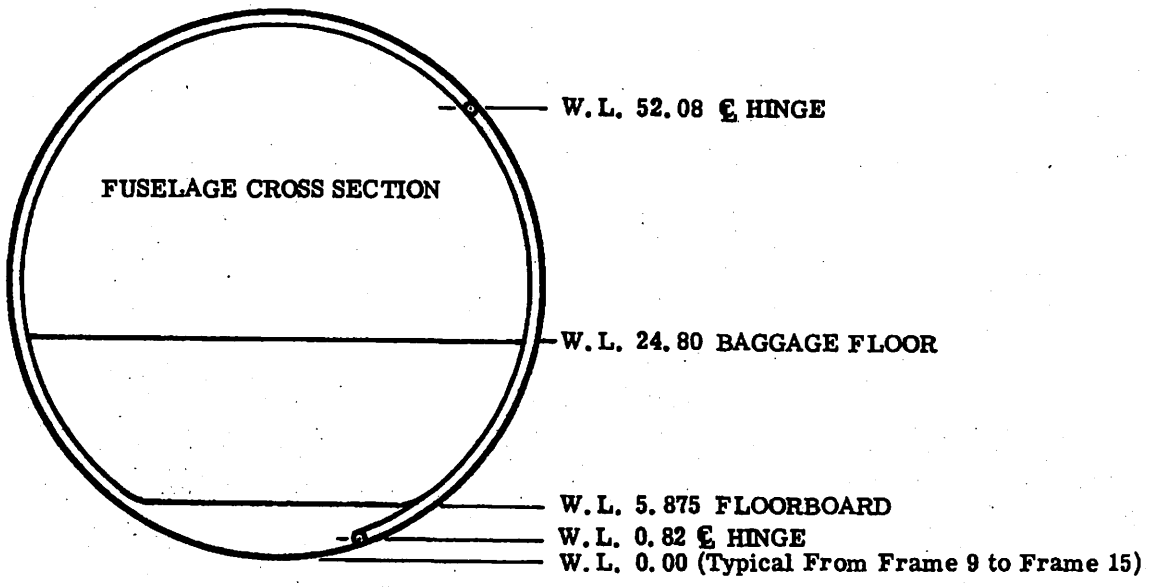
WS - Wing station is a horizontal reference designation starting at the wing centerline, and measured perpendicular along wing datum.

NAC STA - Reference points that apply to the engine nacelle.
NAC WL
NAC BL

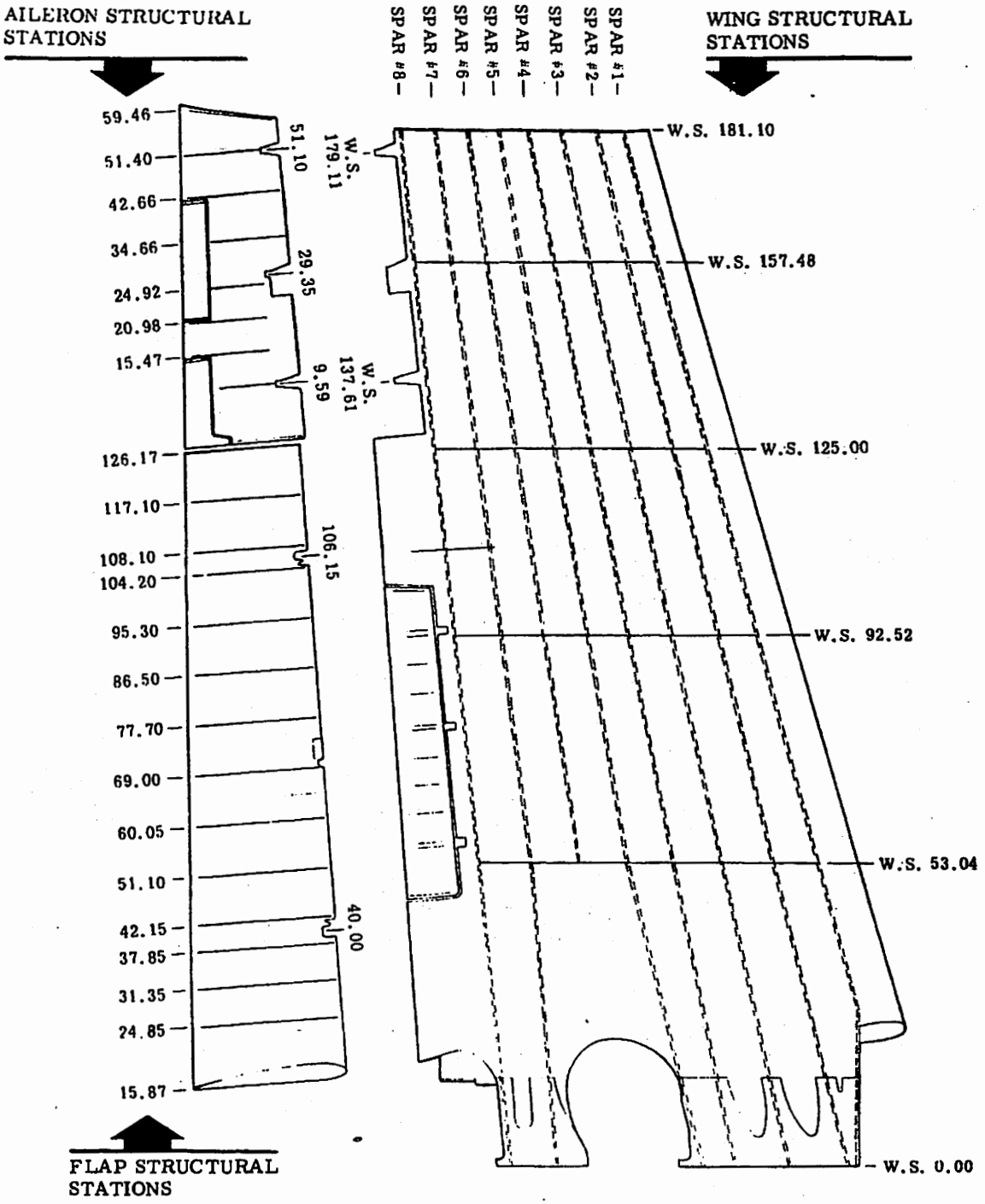
TIP TANK STA - Reference points that apply to the tip tank.
TT WL
TT BL



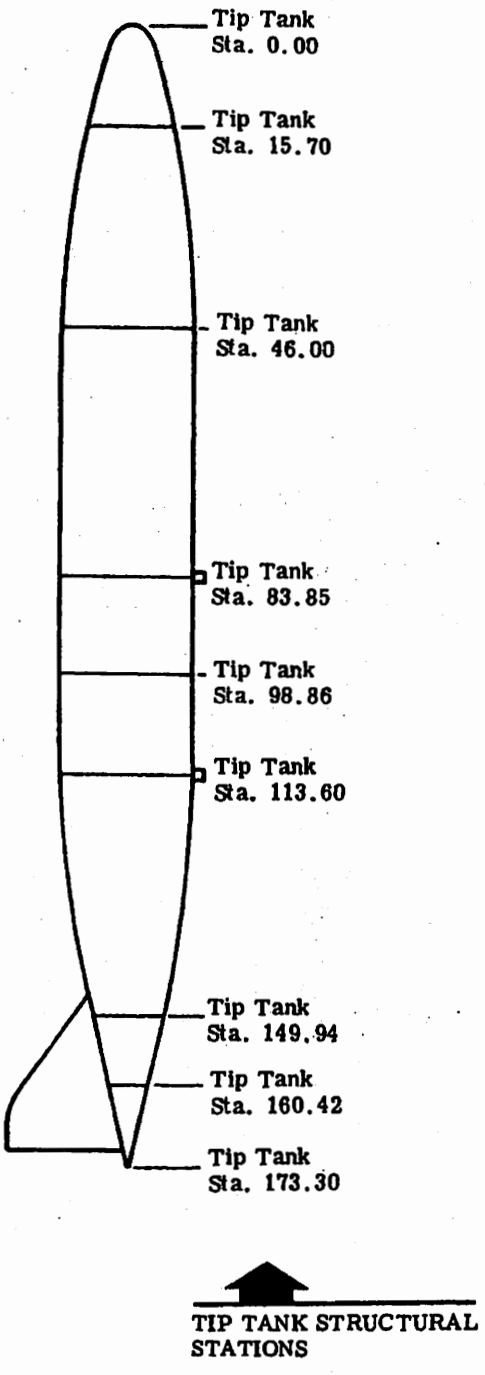
Fuselage Structural Station Diagram
Figure 1 (Sheet 1 of 2)



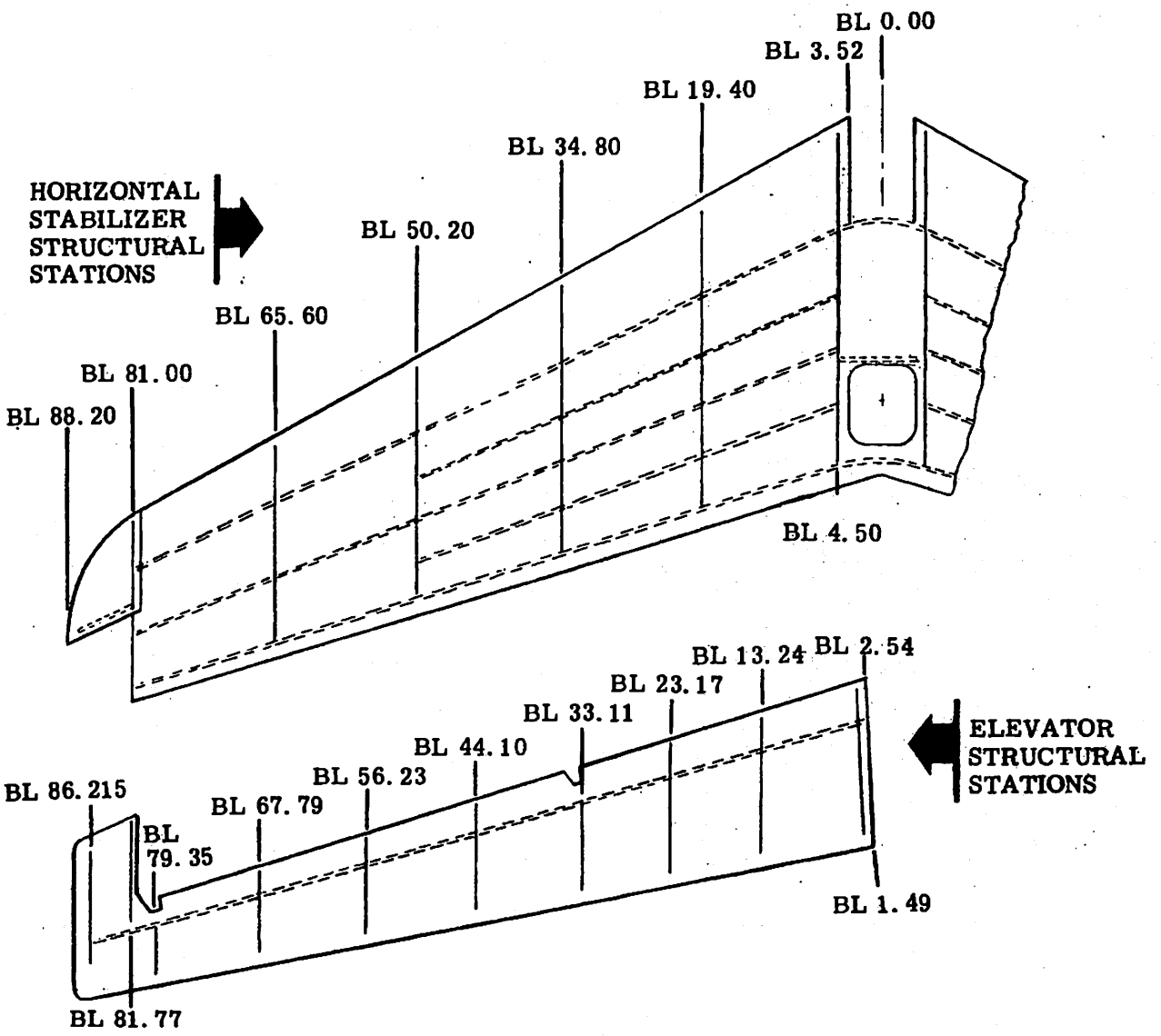
Fuselage Structural Station Diagram
Figure 1 (Sheet 2 of 2)



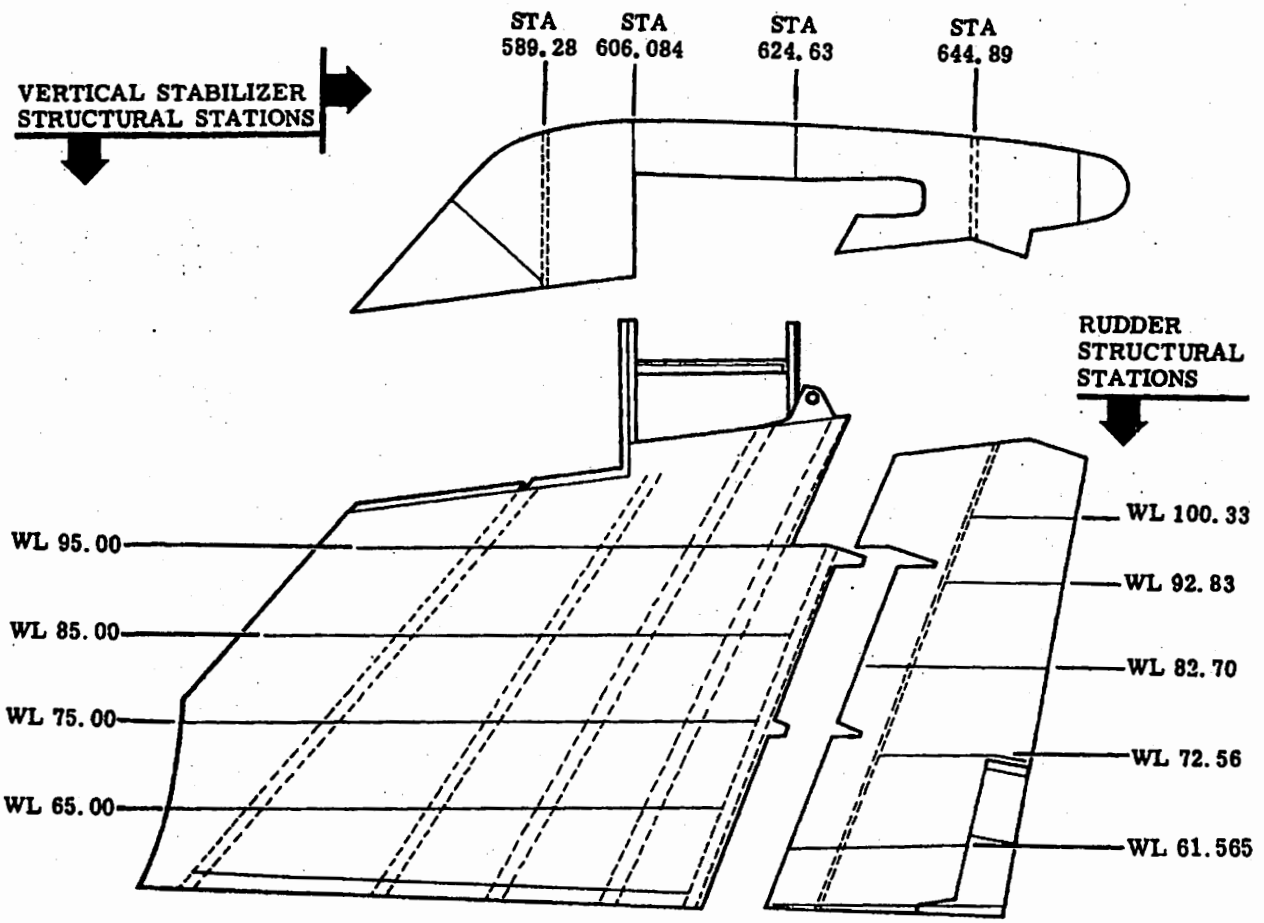
Wing, Aileron and Flap Structural Station Diagram
Figure 2



Tip Tank Structural Station Diagram
Figure 3

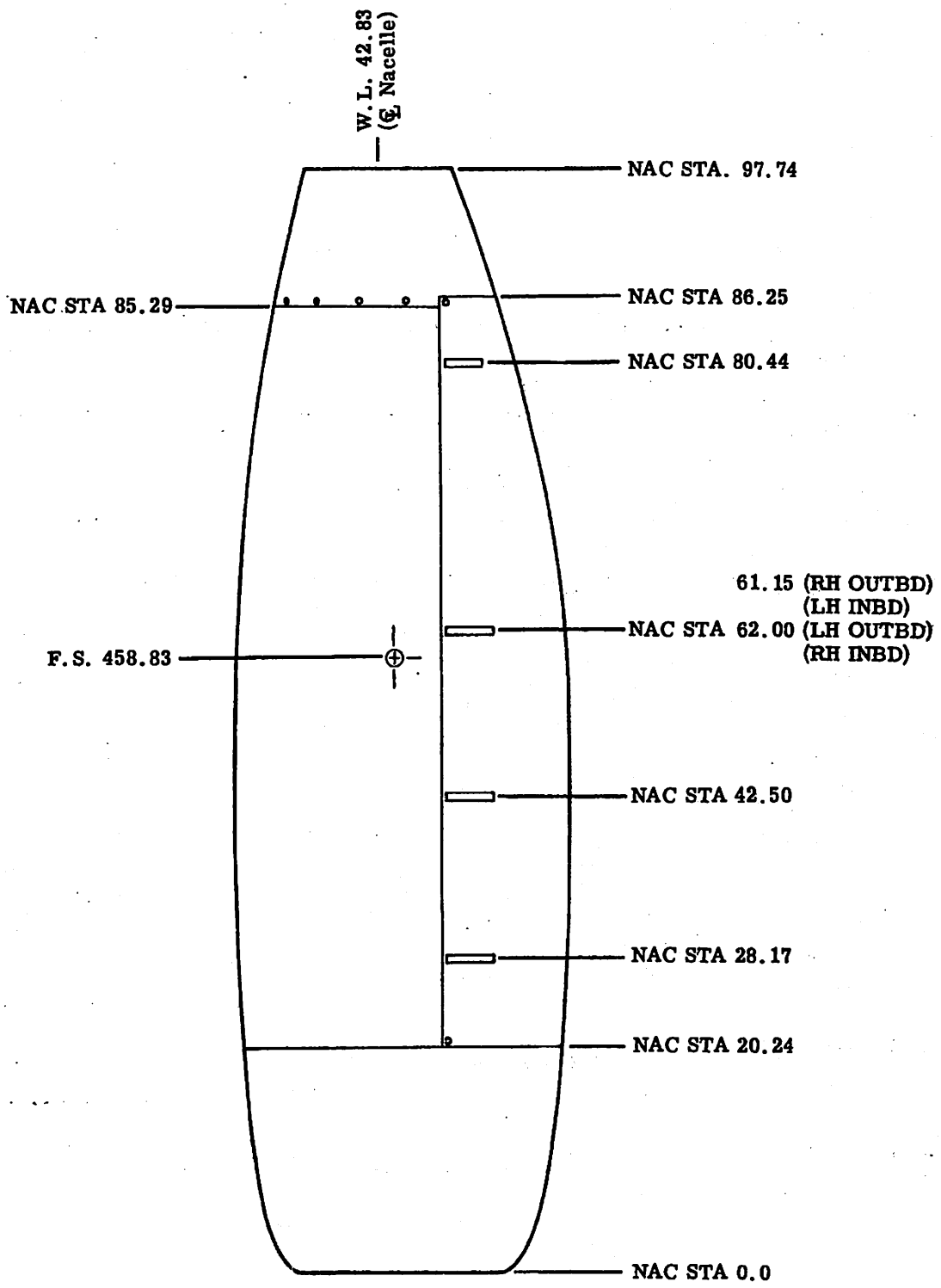


Horizontal Stabilizer and Elevator Structural Stations Diagram
Figure 4



Vertical Stabilizer and Rudder Structural Stations Diagram
Figure 5

EFFECTIVITY: ALL

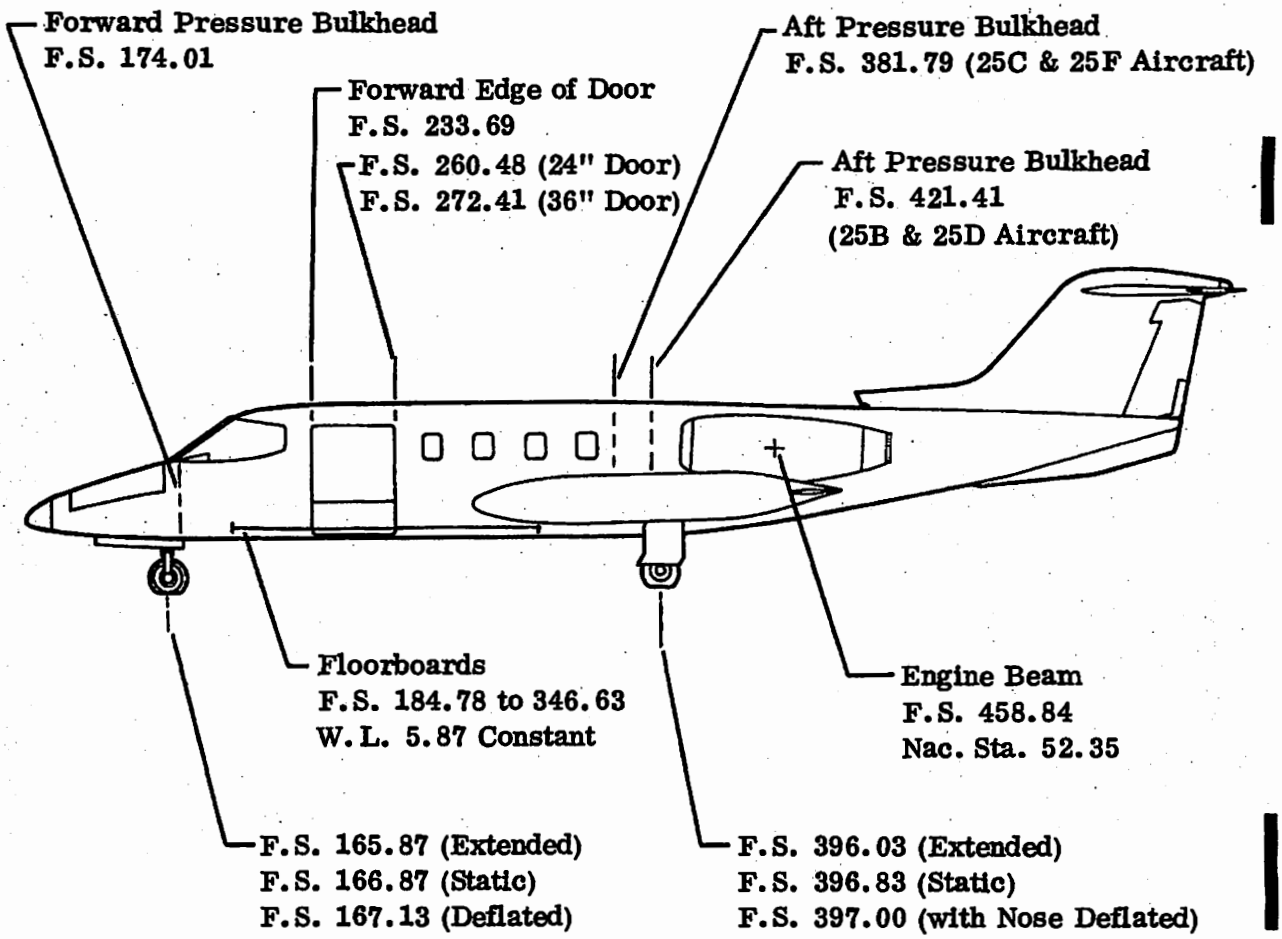


Nacelle Structural Station Diagram
Figure 6

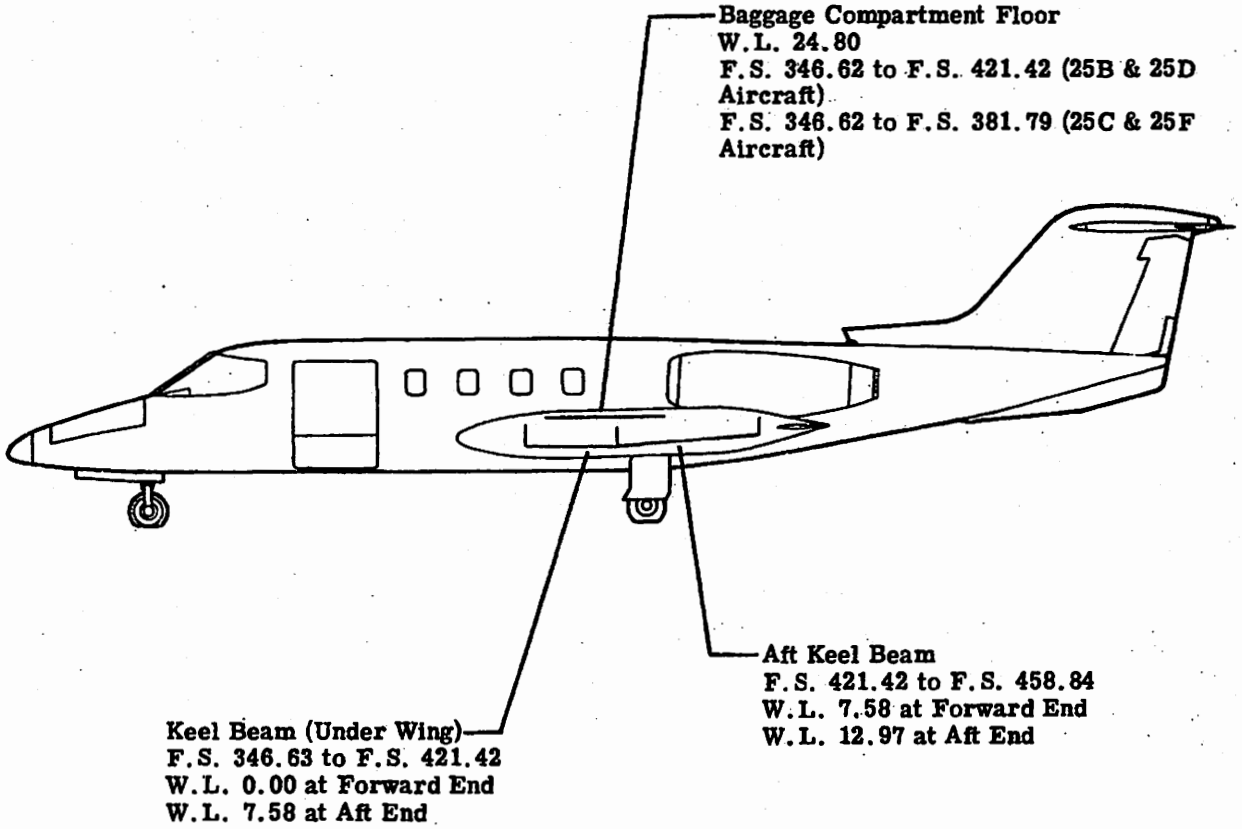
MAJOR STRUCTURAL MEMBERS - DESCRIPTION AND OPERATION

1. General

A. The location of some major structural members are shown in figure 1.



Major Structural Member Locations
Figure 1 (Sheet 1 of 2)



Major Structural Member Locations
Figure 1 (Sheet 2 of 2)

EFFECTIVITY: ALL